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UNITED STATES NAVY

MEDICAL NEWS LETTER

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TABLE OF CONTENTS

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Vol. 39 | Friday, 2 February 1962 | No. 3

Policy

The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be, nor are they, susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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Change of Address

Please forward changes of address for the News Letter to: Commanding Officer, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md., giving full name, rank, corps, and old and new addresses.

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The issuance of this publication approved by the Secretary of the Navy on 28 June 1961.

HISTORICAL FUND
of the
NAVY MEDICAL DEPARTMENT

A committee has been formed with representation from the Medical Corps, Dental Corps, Medical Service Corps, Nurse Corps, and Hospital Corps for the purpose of creating a fund to be used for the collection and maintenance of items of historical interest to the Medical Department. Such items will include, but will not be limited to, portraits, memorials, etc., designed to perpetuate the memory of distinguished members of the Navy Medical Department. These memorials will be displayed in the Bureau of Medicine and Surgery and at the National Naval Medical Center. Medical Department officers, active and inactive, are invited to make small contributions to the fund. It is emphasized that all donations must be on a strictly voluntary basis. Funds received will be deposited in a Washington, D. C. bank to the credit of the Navy Medical Department Historical Fund, and will be expended only as approved by the Committee or its successor and for the objectives stated.

It is anticipated that an historical committee will be organized at each of our medical activities. If you desire to contribute, please do so through your local historical committee or send your check direct, payable to Navy Medical Department Historical Fund, and mail to:

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Immunotransfusion in the Treatment of Burns

National Academy of Sciences-National Research Council, Division of Medical Sciences, Subcommittee on Plasma, November 1961.

It has been proposed that a significant injury of the skin by thermal trauma results in production of a substance in the traumatized tissues which is both toxic and antigenic. This substance pervades the burned organism and causes a toxemia. In favorable instances, the toxic substance stimulates formation of an auto-antitoxin or auto-antibody which counteracts the toxemia. In addition, injection of the toxin into another organism under certain circumstances stimulates the formation of an antitoxin in that organism. The antitoxin may, therefore, be produced naturally or artificially. Finally, neither the toxin nor antitoxin is species-specific.

On the basis of this thesis, a method of therapy, immunotransfusion for burns, has been advanced. Blood is drawn from an individual who has recovered from significant burns, and either the whole blood, plasma, or serum is infused into the recently burned patient on the presumption that the procedure favorably influences the toxemia and, possibly, the final outcome of the course of illness.

For the purpose of this study, a large amount of data and information on this subject obtained from all available sources was reviewed and analyzed from the following three viewpoints:

Validity of evidence in support of the existence of a biologically active autotoxin in the burned organism.

Validity of evidence in support of the occurrence of antigen-antibody phenomena in the burned organism.

Effectiveness of the use of immunotransfusion following burning in man and experimental animals.

It is concluded that:

A. There is no statistically acceptable evidence to suggest support for the burn toxin-antitoxin concept.

B. Some evidence exists to suggest that antigen-antibody phenomena do occur in the living organism following burning, but the biologic significance of these phenomena is unclear. However, at this stage of development it seems permissible to conjecture that if a biologically active antigen resulting from burn injury does exert a deleterious effect, it is a morbid rather than a mortal one.

C. Data available on the use of immunotransfusion in man and experimental animals are inconclusive. The scope of studies performed to date on this problem is limited, and many of these studies are completely negative. No statistically acceptable evidence has been acquired to demonstrate that the clinical use of convalescent burn serum, blood, or plasma surpasses in value other methods of treatment to a 5% confidence level. The preponderance of evidence from animal experiments fails to support the thesis that such transfusions have any specific beneficial effect against an autotoxin or autoantigen.

There are indications, however, that specific antimicrobial antibodies may be present in the blood of organisms which have recovered from infected burn wounds. It is within the realm of possibility that beneficial effects might result from transfusion of blood, plasma, or serum from a donor possessing antibodies which react specifically against microorganisms infecting a recently burned organism.

Additionally, with respect to further investigation of the clinical use of immunotransfusion, there is no basis upon which to determine the dosage level for a broad-scale clinical study without positive pilot studies in animals. To set up a clinical study with the objective of detecting a 20% or greater benefit with a confidence level of 5% in a population as heterogeneous as clinical burn populations, would require a very large series of miscellaneous burns or a substantial series of selected burns in order to include the proper controls. Assuming a requirement of 2 liters of burn plasma per case, half of a series of 1000 burns would require 500 ml blood donations from each of 2000 convalescent burn patients. Because, under existing operational standards, blood banks do not accept donors within 6 months of the receipt of a transfusion, separate donor programs might have to be developed.

D. The causes of morbidity and mortality—particularly in the more extensive thermal burns—and the definition of optimal methods of treatment present significant problems requiring further study.

Suggested Courses of Action

These suggestions are grouped under two headings —laboratory investigations which include both in vivo and in vitro experimentation; and clinical investigation. In addition, the individuals responsible for conducting this review were unanimously agreed on the desirability of repeating in this report the admonition that a reaction observed in an in vitro preparation may not be the same as, nor in any way related to, that which occurs in the living organism. Only through carefully conducted confirmatory in vivo studies can such observations be established as biologic facts.

A. Laboratory Investigation

1. In Vivo Animal Studies. Further investigation should be conducted using animals—especially large animals—subjected to standardized burns under the very best laboratory conditions of animal care and with meticulous control of temperature, humidity, and other such variables. In these studies, it is of paramount importance to observe strict microbiologic controls.

Protocols of such studies, as applicable, should be designed to simulate as nearly as possible the standard regimens used in clinical practice.

In addition, studies using all appropriate methods, including immunologic techniques, should be continued in an effort to demonstrate and characterize toxins and autoantigens, and to adequately evaluate the effectiveness of immunotransfusion in animals.

The findings of the above studies should be reviewed in relation to the current clinical care of the severely burned patient.

2. Basic. (a) Biochemical Techniques. There appears to be no evidence to suggest the advisability of extensive biochemical study of possible changes in cellular metabolism or in plasma proteins following burning. On the other hand, interesting leads have been reported in both of these areas. It appears unlikely that additional information concerning these abnormalities from the biochemical viewpoint would bear directly on the question of use of immunotransfusion in burns. However, in the broader context, it is important to pursue studies in this area to establish additional scientific facts.

(b) Tissue Culture Systems. In general, tissue culture techniques previously used in studies concerning the proposed toxin-antitoxin phenomenon in burns have been inadequate. Today, a larger spectrum of cell types and strains can be grown in quantities which were relatively impossible a few years ago. A substantial number of cell types and strains can be induced to proliferate rapidly under more accurately controlled experimental conditions and in solutions containing no added protein. Refinements have been made recently in collateral techniques which make tissue culture of greater usefulness in studies involving retardation or acceleration of cellular proliferation, migration of cells, and changes of specialized cellular functions such as secretory or enzymatic activities. These newer tissue culture and refined collateral techniques could be employed with definite value in further studies of this problem.

(c) Immunologic Techniques. In addition to studies designed to evaluate the therapeutic effectiveness of immunotransfusion in burned animals, it would be desirable to investigate the presence of antigens and antibodies characteristic of the burned animal. In these studies, efforts should be directed toward achieving the best antibody response and toward concentrating antiserum to increase the sensitivity. In this connection, successive burning as a means of achieving a more potent serum should be explored. Efforts should also be continued to determine whether or not convalescent burn plasma or serum in itself is harmful.

However, apart from considerations of any protective effect of convalescent burn plasma or serum or the existence of a burn toxin, there may be changes in the blood or body fluids of a burned organism which may be susceptible to demonstration by immunologic and immunochemical methods. The significance of such changes may be fundamental to understanding the pathologic changes occurring in the burned organism. However, in the absence of any demonstrable protective effect of immunotransfusion in the burned organism, changes observed in the laboratory by immunologic methods do not constitute a basis for the clinical use of convalescent plasma or serum.

B. Clinical Investigation

Neither large-scale clinical studies nor collection and stockpiling of convalescent burn plasma or serum on a nationwide basis and its distribution on

request to physicians can be recommended at the present time. Such actions should not be considered unless further studies in animals are completed which yield clearly affirmative results. Indeed, there may be inherent dangers in the use of convalescent plasma or serum which are not fully recognized at present.

Pilot clinical studies by individual investigators or groups of cooperating investigators with fresh approaches to various controllable facets of the problem will undoubtedly be continued, and support for such projects should be afforded on the merits of the individual proposals. Such pilot studies, when undertaken, should be on a double-blind basis using "normal" plasma or serum in alternate cases. It would also be important in such studies to record for future evaluation the age, blood type, date on which donor's burn was sustained, the area, depth, and location of his burn, results of microbiologic cultures at intervals during the healing period, amount and types of colloid and blood received, and the time required for healing. All of these factors might have significance in characterizing a particular donor's plasma or serum. Finally, any complication, such as hepatitis, or any fatal outcome for the recipient should be recorded.

(NOTE: Since this report represents only a fraction of the report of the November 1961 meeting of the Subcommittee on Plasma, Division of Medical Sciences, National Academy of Sciences-National Research Council, interested readers are referred to the complete monograph which contains much valuable information on work performed in this highly interesting field. Appreciation is extended for use of the above material in this issue of the Medical News Letter.

—Editor)

* * * * * *

Management of Gram-Negative Septicemia Common to Urologic Procedures

Sheridan W. Shirley, Champ Lyons, and Everett Hale, Department of Surgery, Division of Urology, University of Alabama Medical Center, Birmingham, Ala. J Urol 86: 673-675, November 1961. *

Although rapid progress has been made in antibiotic therapy since World War II, there is an increasing awareness of the importance of gram-negative bacillary infection in surgical patients. Rogers reported an increase of gram-negative bacillary infection terminating fatally from 4.5% (1938-1940) to 11% (1957-1958). Septicemia due to invasion of the bloodstream by gram-negative bacilli has become a frequent and serious complication following various diagnostic and therapeutic urologic procedures.

At the University of Alabama Medical Center, the authors encountered thirty-three well documented cases of gram-negative septicemia on the urologic service as a result of analyzing 160 gram-negative positive blood

cultures from July 1959 to December 1960. They have omitted histories of several patients who exhibited clinical signs and symptoms of gram-negative shock because positive blood cultures were not obtained.

Studies of 160 positive blood cultures reveal an over-all mortality rate of 37%. Shock appears to be occurring with increasing frequency in urologic patients with septicemia. On the urologic service, 16 patients (48%) of 33 cases of gram-negative septicemia had shock with 9 deaths—a mortality rate of 27%. The serious nature of the peripheral vascular collapse is emphasized by the fact that 56% of patients in shock died.

Studies of the microbial causes of the infections show that E. coli (34%) and Aerobacter aerogenes (32%) accounted for 66% of the 160 positive blood cultures. Pseudomonas and Proteus were the third and fourth most frequently encountered; however, cultures in some 15% of patients grew two or more gram-negative organisms. The most frequently encountered organisms in the 33 cases of septicemia studied on the urologic service are: E. coli, 13 (40%); A. aerogenes, 9 (27%); Pseudomonas, 7 (21%); and Proteus, 2 (6%).

The most significant feature in the group of urologic patients who had peripheral vascular collapse is that A. aerogenes was the most common offender (44%). E. coli was second (31%). A. aerogenes also was the most prevalent organism in 9 of the 16 patients in shock who died. Fifty percent of the deaths were due to A. aerogenes.

Progressive hypotension and shock due to liberation of endotoxin (a well defined glycolipid) into the blood stream by gram-negative bacilli are reported to be frequent complications in postoperative patients. Sixty percent of cases of gram-negative septicemia occurred in postoperative patients. The most common cause of endotoxemia was trauma from the bladder catheter. Eleven of the twenty postoperative patients with sepsis had undergone prostatic surgery. Eight operations were done by the transurethral method. The other 13 cases of septicemia occurred as a result of severe infection in the genitourinary tract. Pyelonephritis and associated lower urinary tract infections accounted for 9 cases of gram-negative septicemia.

The typical patient is an elderly man who has inadvertently or intentionally pulled on his urethral catheter. Within a few hours he may experience a typical clinical course of progressive endotoxin vascular failure. In a 66-year old white man, a typical clinical course of progressive endotoxemic vascular failure was encountered 2 hours after rectal examination of the prostate by two physicians. The patient recovered after several days of vigorous therapy. Urinary retention was an associated factor in 5 of the 9 deaths. The high mortality rate of patients with sepsis and shock due to gram-negative endotoxin is related to advanced age in the majority.

Management

There is no completely satisfactory answer to the problem of endotoxin shock. Because of the difficulty in evaluating therapy, the authors have adopted a plan of management subject to change as understanding of the pharmacologic effects

of endotoxin becomes more clearly defined. They wish to reemphasize the importance of early recognition of impending gram-negative endotoxemia. Usually, the patient exhibits a chill, rise in temperature—often to 105° or 106° F—is restless with flushed extremities, has a full and bounding pulse, and a rise in diastolic blood pressure. Within a few hours following these signs of impending shock, the blood pressure gradually falls, the pulse becomes rapid, and the patient becomes cold and clammy, particularly the skin of the extremities. Blood cultures should be drawn with the first spike in temperature or chill and repeated if the temperature continues to mount daily.

Studies with the Warburg apparatus suggest that cellular oxygen consumption is stimulated by endotoxin. The authors believe that oxygen should be used the moment the chill or fever occurs. Vasopressors such as norepinephrine or neosynephrine are used by intravenous drip in an adequate vein or cut down to maintain blood pressure as soon as hypotension develops. Because it is known that a lethal dose of endotoxin produces an effect that differs from the pyrogenic reaction in that hypotension is associated with peripheral vasoconstriction and urinary shutdown, they recommend that the blood pressure be maintained no higher than 100 to 110 systolic in a previously known normotensive patient. If there is poor clinical response to norepinephrine, a more potent vasopressor such a levarterenol (levophed) may be necessary. In many instances, these drugs produce an adequate blood pressure response, but they may fail to initiate urine output and frequently intensify the peripheral vasoconstriction.

Hydrocortisone given early to adult humans has been beneficial in certain cases and often enhances the blood pressure effect of vasopressors. Evidence is that it should be given early and in large doses, such as 1000 mg the first 24 hours, and continued each day in severe cases, particularly those needing vasopressors in order to maintain adequate blood pressure.

Massive dosages of antibiotics are recommended by many, but may have limited value. Weil and Spink reported 100% mortality in 7 patients on incorrect antibiotic therapy as compared to 30% mortality rate of 23 patients on correct antibiotic therapy reported by Hall and Gold. In the authors' series of 9 deaths, 5 patients had been taking specific antibiotics (56%).

Although more conclusive data are needed on the incidence of metabolic acidosis in these patients, the writers now employ serial blood pH readings so that early acidosis may be detected and corrected. Recently, one patient with septic shock was found to have a blood pH of 7. 1 within 18 hours of onset of clinically significant infection. The possibility exists that the diminished myocardial contractility of metabolic acidosis contributes significantly to septic shock. Empirically, hypothermia seems a reasonable adjunct because of the associated increase in oxygen demand. Frequent venous pressures should also be taken in an effort to detect early fluid overload and impending cardiac failure.

Renal failure accompanying endotoxin shock is often irreversible and cannot be overemphasized. In renal failure, one should be aware that penicillin, erythromycin, and chloramphenicol are metabolized within the body, but that tetracycline, streptomycin, neomycin, kanamycin, and bacitracin

are not, and may cause serious toxic accumulation. Since vasoconstriction is a prominent feature in shock, blocking agents or antagonists for histamine, adrenalytic agents, and serotonin antagonists have offered protection when given to animals prior to the onset of shock. Dibenzyline (phenoxygenzamine-HCL), an adrenergic ganglionic blocking agent, has been shown to protect against endotoxin shock in animals. Chlorpromazine has both antihistaminic and antiserotonin activity and protects against shock in experimental animals. Too meager information is available at present for their use in human patients.
* Read at annual meeting of Southeastern Section of American Urological Association, Inc., Hollywood, Fla., March 19 - 24, 1961.

(NOTE: The importance of Gram-Negative infections in all branches of medicine and surgery cannot be overemphasized. Determined and organized campaigns against these potentially lethal organisms must be waged in a manner similar to those against the staphylococcal group. —Editor)

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Multiple Infections in Acute Respiratory Illness

W. T. Stille, Willard Pierce, and Y. E. Crawford, J Infect Dis 109: 158-165, September - October 1961. *

The demonstration of infection by more than one agent in particular cases of respiratory illness has been reported in many investigations, some of which are enumerated in this article. Studies of the clinical manifestations of illness associated with different microbic agents indicate that some differentiation of the clinical picture occurs in relation to the infectious agent demonstrated (Grieble et al, 1958; Schultz et al, 1960). This led the authors to wonder whether patients with demonstrable multiple infections exhibit more symptoms or whether the illnesses are in other ways more severe than those of patients in whom only a single infection can be detected. An effort has been made to answer this and other questions concerning possible antagonism or enhancement between agents.

Adenoviral, influenzal, and streptococcal infections were studied serologically and clinically in 826 febrile respiratory illnesses of Navy recruits at Great Lakes, Ill. Multiple infections were associated with more frequent hospitalizations, although severity of illness as indicated by oral temperatures and presenting complaints could not be related to multiplicity of infection. It is suggested that the greater the number of simultaneous infections the greater the possibility of occurrence of increased severity of illness.

An analysis of the numbers of cases of multiple infections by adenovirus, influenza A, B, and C, streptococci CCA, Eaton agent, and HA 1 (and possibly HA 2 also), variously reported by a number of authors, revealed that these infections behaved independently in a population. Infection by one or more of these agents appears to neither enhance nor antagonize infection by one or more of other agents studied.

Data for simultaneous isolation of adenovirus and influenza B virus and similar data on streptococcal isolations indicated that some, if not all, of these infections were concurrent; i. e., apparent cases of multiple infection were not all sequential infections in rapid succession. Since severity of illness appears to be associated with multiplicity of infection, the more severe illnesses may more often result from simultaneous multiple spread (or transmission and activation of latent infection). This factor may be involved in the typically high rates of respiratory illness of military recruits.

* (From the Naval Medical Research Unit No. 4, U.S. Naval Training Center, Great Lakes, Ill. This study was done in connection with Research Project, MR 005.09-1203.2, Bureau of Medicine and Surgery, Department of the Navy, Washington, D. C.)

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Steroids and the Skeleton

R.O. MURRAY, M.B.E., M.D., M.R.C.P.E., D.M.R. Radiology 77: 729 - 742, November 1961.*

Harvey Cushing in 1932 first described the syndrome of obesity, hypertension, weakness, and depression of sexual function which has since become classically designated by his name. The condition was attributed by him to overproduction of pituitary adrenocorticotrophic hormone in association with the presence of a basophil adenoma. Although he postulated that the consequent stimulation of the adrenal cortex resulted in endogenous overproduction of the adrenocortical steroids, it has since been shown—largely as a result of the work of Albright, Parson, and Bloomberg (1941)—that the presence of such an adenoma is not essential for the development of the syndrome. Primary disease of the adrenal cortex itself, either simple hyperplasia or benign or malignant neoplasia, is the more common cause without stimulus from the pituitary. The hormones responsible for the skeletal changes in this condition are cortisone and hydrocortisone.

During the last decade these substances and similar steroids have been made available for therapeutic use and a number of instances of iatrogenic disease have resulted from their employment. These untoward sequelae are relatively uncommon, and individual radiologists may not encounter personally all varieties that may occur. That such therapy may result in fully developed Cushing's syndrome—with its principal skeletal manifestations of osteoporosis, pathologic fractures, and abnormal callus formation—is now well recognized. Study of the literature, however, indicates that certain lesser changes may be observed, particularly in connection with intra-articular injections. Diminution of pain sense and suppression of inflammatory reaction as a result of an excess of these hormones, whether natural or therapeutic, may cause the diagnosis of such lesions to be delayed. The main radiologic changes include:

Osteoporosis of a widespread nature which is more easily demonstrated in the axial than in the appendicular skeleton.

Pathologic fractures which may occur anywhere in the weakened skeleton structures, but are most commonly seen in the spine, ribs, and pelvis.

Pseudo-callus formation, having a "cotton wool" appearance. This develops around the fractures and, in particular, appears to be responsible for the sign of marginal condensation described in connection with crush fractures of vertebral bodies. This calcification represents an incomplete attempt at fracture healing associated with inhibition of osteoblastic function by the excess hormones.

Delay in skeletal development.

Attention is drawn to the clinical facts that (a) pain is often completely suppressed in association with these fractures, and (b) a fatal outcome of the disease is commonly due to infection.

Iatrogenic skeleton disease resulting from adrenocortical steroid therapy—

Steroids were introduced for therapeutic use in 1948 and first reports of their causation of iatrogenic disease appeared in 1950. The following iatrogenic complications are considered:

1. Cushing's syndrome which cannot be differentiated radiologically from the natural form of the disease has been frequently described. It is likely to occur with a cortisone or cortisone-equivalent dosage of 50 to 100 mg per day over periods varying from 6 months to 3 years.

2. Osteoporosis, fractures, and joint degenerations may be observed in the absence of the fully developed picture of Cushing's syndrome. Such changes may occur after much shorter periods of steroid therapy. These fractures exhibit the same pseudo-callus formation as that seen in connection with Cushing's syndrome. Associated pain tends to be suppressed or even completely absent except in the case of vertebral compression fractures where girdle pains are common, due possibly to secondary nerve-root irritation. Joint degenerations—in some cases approximating a Charcot neuropathy in appearance—are not uncommon, particularly in the hips and knees, and have been observed as a result of both oral therapy and local intra-articular injections. They are attributed to the improved sense of well-being engendered with consequent increase of mobility and subjection to greater trauma in the absence of the warning sense of pain. For some reason, so far unexplained, pain may continue to be suppressed even after withdrawal of therapy.

3. Bone and joint infections may develop more easily and spread more rapidly and silently in the absence of the normal sense of pain and with the suppression of the normal reaction of the body to inflammation. Intra-articular therapy carries with it another hazard—the introduction of infection is dangerous since symptoms are sometimes suppressed. This appears to be less common than with oral therapy, but a florid—though painless—infective arthritis may lead to a fatal termination.

4. Delay in skeletal development may also occur in children.

It is pointed out that such complications are not frequent and are not in themselves an indication for the cessation of steroid therapy since many of these effects can be overcome by the employment of other protective hormones and antibiotic drugs.

*(From the Institute of Orthopaedics and Royal National Orthopaedic Hospital, London, England. Presented at the Forty-Sixth Annual Meeting of the Radiological Society of North America, Cincinnati, Ohio, December 4 - 9, 1960)

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The Dangerous Vaginal Pessary

James K. Russell, M.D., F.R.C.O.G., Professor of Obstetrics and Gynaecology, University of Durham: Consultant Gynaecologist, Royal Victoria Infirmary, Newcastle upon Tyne. Brit Med J 5267: 1595, December 16, 1961.

The author reports that since January 1957, 13 patients have been admitted to the Royal Victoria Infirmary with serious pelvic complications associated with the prolonged use of vaginal ring or cup-and-stem pessaries. There have been six cases of primary cancer of the vagina, five of severe chronic ulceration of the vaginal walls, and one case of vaginitis complicated by fulminating pelvic cellulitis, and in one patient a pessary had ulcerated into the bladder and rectum causing large fistulae; this patient died. Brief case histories are given.

In view of these important complications, it is suggested that there is no place in modern gynaecological practice for vaginal pessaries in the management of prolapse. For severe degrees of prolapse in elderly and infirm patients, Le Fort's operation is preferable to the use of vaginal pessaries.

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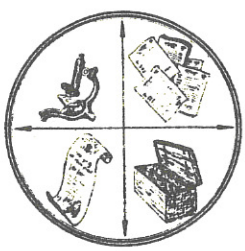

MISCELLANY

Navy Nurse Corps Officers Serve on Aircraft Carriers

For a second time within a 2-month interval Navy Nurse Corps officers were ordered to participate in hurricane disaster relief missions aboard the Navy's aircraft carriers. It is believed that these missions marked the first time in the history of the modern Navy that Nurse Corps officers have served on temporary additional duty aboard a warship and, in the most recent mission, the first time they have traveled to a foreign country aboard a combatant ship.

In September 1961 two Navy nurses, LCDR Miriam Frank NC USN and LTJG Joan Helgendorff NC USNR, stationed at U.S. Naval Hospital, Pensacola, Fla., were assigned TAD aboard the USS SHANGRI-LA; LT Janice Langley NC USNR and LTJG Mary Freeman NC USNR from the same hospital were assigned aboard the USS ANTIETAM to assist with the hurricane disaster mission in Texas.

On 1 November 1961 LCDR Audrey Fellabaum NC USN, LTJG Mary McArdle NC USNR, LTJG Patricia Cope NC USNR, and ENS Joan Beasley NC USNR, all stationed at the U.S. Naval Hospital, Pensacola, Fla., reported aboard the USS ANTIETAM to sail for British Honduras, the hurricane area.

Enroute to the disaster area, briefing on the general conditions existing in the area was received via short wave radio. Medical personnel were divided into three groups by the Senior Medical Officer, CAPT Karl R. Whitney MC USN: pool, shore party, and ship's party with an officer and deputy officer in charge of each group. The shore party was subdivided into two groups with two Nurse Corps officers assigned to each group. Additional meetings were held for briefing on endemic diseases in the Central American area, the races living there, languages spoken, supplies available, mode of communication, and reporting of operations carried out.

Before the ship arrived at its designated anchorage, LCDR Fellabaum and LTJG McArdle left by helicopter with the Medical Officer-in-Charge for Stann Creek, British Honduras. The hurricane damage was visible from the Air. Most of the houses were destroyed and trees blown down; roads were under water and blocked by debris. From the landing area they were taken to the hospital which was badly damaged. The nurses were assigned to set up for and give typhoid immunizations to the native population. Individuals badly in need of medical attention were screened and referred to the outpatient department where Navy medical officers assisted local doctors in treatment of patients. Leprosy, malaria, tropical skin diseases, infections, puncture wounds, gangrene, and fractures were plentiful among the casualties treated. Improvised set-ups were necessary for sterilizing needles and syringes and caring for the ill and injured.

Twenty-eight hundred typhoid immunizations had been administered by the end of the day. On the following day, with the assistance of two American school teachers and an Episcopal minister's wife—a pediatric nurse from England—five thousand immunizations were administered. The people's praise and appreciation of the help offered them was heart warming. As the nurses walked to the helicopter to return to the ANTIETAM, people lined the road to express appreciation and bid them a friendly farewell.

The other two Nurse Corps officers with the mission reported to the Bliss Institute in Belize and were assigned to assist at the Memorial Hospital in that area. Memorial Hospital was a huge, three-story house with one wing blown away and the wall and roof of the other wing partially destroyed. One Navy nurse relieved the three local nurses on night duty who had been working for 3 days and nights without relief along with a Navy Medical officer—the only doctor in that particular relief area. Emergency treatment of wounds

and infections and tetanus and typhoid immunizations were accomplished in cooperation with the British Medical team at their request. Medical and nursing care were also administered aboard the carrier, some of the patients being seriously ill.

The Nurse Corps officers are proud to have had the opportunity to share in these disaster relief missions along with the ship's officers and men whose assistance was so genuinely appreciated by the local citizens of the hurricane torn areas. (Nursing Division, BuMed)

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Clinical Notes and Research - USNH Chelsea

LCDR Melvin Museles MC USN and CDR Andrew M. Margileth MC USN, Department of Pediatrics, USNH, Chelsea, Mass., jointly participated in civilian scientific meetings as follows: "Clinical Studies Using Deglycerolized Whole Blood and Fresh Red Blood Cells Resuspended in Albumin for Exchange Transfusions in Newborns" - Paper presented at the annual meeting of the Protein Foundation in Cambridge, Mass., 20 - 21 November 1961; and "Hemangiomas in Children - Review of 150 Patients" - Paper presented at the Winter Meeting of the New England Pediatrics Society, 6 December 1961.

Captain Lewis L. Haynes MC USN, Executive Officer and formerly Chief of Surgical Service, USNH, Chelsea, and James L. Tullis MD of the Protein Foundation delivered talks on "The Use of Frozen Blood in Surgery and Medicine" at the 46th Annual Meeting of the Boston Surgical Society on 11 December 1961.

(NOTE: CAPT Stephen J. Ryan MC USN, Commanding Officer, CAPT Haynes, CDR Mary Sproul MSC USN and their associates at the USNH, Chelsea, under sponsorship of the Bureau of Medicine and Surgery, are continuing with the well conceived and carefully conducted research program in the long-term preservation of frozen whole and fractionized blood. Refinements in technics are being developed steadily, and there is every expectation that a definitive procedure of choice will become applicable to general military use in the near future. It is to be stressed, however, that the program is still in the zone of research.

It is of interest to note that the oxygen-carrying capacity of frozen whole blood, when thawed, is approximately the same as freshly drawn whole blood. Also, the percentage of viable red blood cells is not substantially less than whole blood which has been kept in a standard blood bank refrigerator for a day or so. Radioisotope technics have been employed in some of these determinations.

Frozen blood has been utilized with success in open-heart surgical operations wherein its oxygen carrying capacity has been sufficient to meet physiologic demands. Further research is in progress at Chelsea in order

to determine the most efficient safe and economical freezing technics for whole blood and blood fractions for long-term preservation. It is anticipated that success in these endeavors will be a great boon in open heart surgery.

Interested readers are referred to the article, "Clinical Use of Frozen Cells" in Archives of Surgery, Vol. 81, July 1960 by J. L. Tullis MD, CAPT L. L. Haynes MC USN, LCDR S. Wallach MC USNR, CDR M. T. Sproul MSC USN et al. A digest of this article in the U. S. Navy Medical News Letter of 19 August 1960 reported, in part, as follows:

"Human blood processed in this way (glycerolization and freezing) could be maintained in the frozen state for periods up to at least 28 months (now up to several years) and subsequently transfused with normal in vivo survival (of the erythrocytes).

Survival of the red cells has varied between 68 and 98% with a mean of 83% immediate post-transfusion recovery. No difference in survival characteristics as a function of storage time has been demonstrated. The T/2 decay time has approximated the normal range of 30 days. The average yield of red cells has been 82% of the original donor's blood. For a period of one year there has been no decrease in final cell yield that can be related to duration of storage.

Recipient effects have been satisfactory in all cases. The rise of hemoglobin, red cell count, and hematocrit has been equivalent to what would be predicted from the volume of cells transfused. There have been no undesirable side effects; no chills, fever, urticaria, hepatitis, or hemolysis. It is believed that unexpectedly good tolerance of the blood is not related to freezing per se, but rather to the method of glycerolization and deglycerolization which involves washing the red cells and consequent removal of the intercellular proteins released from dead leukocytes and platelets.

The unique advantages of this method of blood freezing are: versatility of the method whereby red cells may be suspended as 'packed cells' in albumin or as whole blood in the original native plasma; complete bacteriologic safety, reproducibility, and simplicity of method; elimination of donor reaction; elimination of wastage through outdating; availability of rare blood types; and establishment of a true 'bank' whereby an individual can store his own blood for later use."—Editor)

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Completion of NAVMED-N (Certificate of Death). Recent instances of improper disclosure of private information to unauthorized personnel have been traced to NAVMED-N, Item 30 (Summary of Facts Relating to Death). Review revealed that remarks in this section were too voluminous and often included expressions of opinion. Medical officers shall use Item 30 to record only pertinent and established facts concerning origin of disability causing death; important diagnostic data, including significant antemortem and postmortem findings; character and date of operations; duration and principal points in course of fatal disease, injury, or poisoning; and other facts in support of Items 26 and 27 where indicated. (Aviation Medicine Division, BuMed)

From the Note Book

(The following information has been submitted to the Surgeon General, Rear Admiral Edward C. Kenney MC USN by Major General T. J. Hartford USA (Ret), Executive Director of the Association of Military Surgeons of the United States.)

Association of Military Surgeons - Objective. The objective of the Association of Military Surgeons is to contribute to the efficiency and effectiveness of the Federal medical services. To accomplish its mission the Association is dedicated to the following:

1. Encourage fellowship, mutual inspiration, and the interchange of views and information among members.
2. Contribute to the continuing improvement of these medical services.
3. Contribute to the maintenance of a high degree of esprit de corps in the Federal medical services.
4. Maintain and augment the living body of medico-military literature through medium of an official journal.
5. Foster the international interchange of ideas in military medicine among all friendly nations.
6. Maintain the position of personnel of the Federal medical services upon an equality in all areas with that of other officers.
7. Reflect the majority view of the members of the Association in pertinent legislation.
8. Foster continuous study of methods to better accomplish the mission.

Awards Presented by the Association. The attention of all members of the Medical Department of the Navy is invited to the Annual Awards of the Association of Military Surgeons of the United States. In the past, many members of the Medical Department, because of their excellent accomplishments or contributions, have been selected for these honors by the Association. The following awards are currently made each year by the Association at its annual meeting which is held in Washington, D. C., in the fall of the year.

Gorgas Medal - Presented for distinguished work in preventive medicine for the Armed Forces. The award consists of a Silver Medal, a scroll, and an honorarium of $500.

Stitt Award - This award honors the memory of Rear Admiral Edward Rhodes Stitt, a Surgeon General of the Navy who made outstanding contributions to tropical medicine. The award is made to a member who has done some meritorious work in the antibiotic or general medical research field. The award consists of life membership in the Association, a bronze plaque, and an honorarium of $500.

McLester Award - This annual award is presented to the person who is, or has been at any time, a commissioned officer or of relative status in

the Federal Medical Services, and who has done outstanding work in the field of Nutrition and Dietetics. The Award consists of a bronze plaque and an honorarium of $500.

The Sustaining Membership Award - To the person who has made some outstanding contribution in the field of medical research. The award consists of a scroll and an honorarium of $500.

The Andrew Craigie Award - The award consists of a silver plaque which is given for outstanding accomplishment for the advancement of professional pharmacy within the Federal Government.

Federal Nursing Service Award - The recipient who must be a member of the Federal Nursing Services is presented with an appropriate scroll and an honorarium of $500. The award is given for outstanding accomplishment in, or contribution to, the advancement of professional nursing.

The Major Louis Livingston Seaman Prize - Given for some notable article published in MILITARY MEDICINE during the past year. The prize consists of a scroll and an honorarium of $160.

The Sir Henry Wellcome Medal and Prize - This prize and medal are given for the best essay on a military medical subject submitted to the Association in the competitive contest. The award consists of a Silver Medal, a scroll, and an honorarium of $500.

Further information concerning participation in the competitive contest for the Sir Henry Wellcome Medal and Prize may be obtained from the Director, Professional Division, Code 31, Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C. Telephone: OXford 6-1280.

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American Board Certifications

American Board of Anesthesiology

LCDR Elgar P. Ellis Jr MC USN
LT Theodore C. Smith MC USNR (Active)

American Board of Dermatology

LCDR Donald L. Baxter MC USN
LCDR William E. Carson MC USN
LT Hugh E. Fraser MC USN

American Board of Internal Medicine

LCDR William F. Spence MC USN

American Board of Otolaryngology

LT Louis W. Welsh MC USNR (Active)

American Board of Pathology

CAPT Harlon W. Harrison MC USNR (Active)

American Board of Pathology (continued)

LCDR Domenic F. Coletta MC USN
LCDR Clark D. Fobes MS UCN
LCDR William A. Schrader Jr., MC USN
LCDR Jeno E. Szakacs MC USN
LT James C. Bellamy MC USN
LT William A. Foley MC USNR (Active)
LT John A. Meekins MC USN
LT Harold J. Sobel MC USNR
LT Regis W. Stinely MC USN
LT Romeo A. Vidone MC USNR (Active)

American Board of Pediatrics

LT Philip H. Chamberlain MC USNR (Active)
LT William B. Stafford MC USNR (Active)

American Board of Radiology

LCDR Robert C. Spagnoli MC USN
LT James W. Proffitt MC USNR (Active)

American Board of Surgery

LCDR Vernon H. Fitchett MC USN
LCDR James S. Maughon MC USN
LCDR Robert L. Mullin MC USN
LCDR John H. Shaw MC USNR (Active)

American Board of Thoracic Surgery

CDR James E. McClenathan MC USN
CDR Max J. Trummer MC USN

Society Affiliation: CAPT John F. Chace MC USN has been elected to Fellowship in the American College of Chest Physicians.

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Doctor Sendroy Receives Honor. Dr. Julius Sendroy Jr., Chief Chemist, U.S. Naval Medical Research Institute, National Naval Medical Center, Bethesda, Md., has received the following letter from Dr. Detlev W. Bronk, President of the National Academy of Sciences-National Research Council.

"On nomination of the Division of Chemistry and Chemical Technology, it gives me pleasure to appoint you a member of the National Research Council to represent the American Association of Clinical Chemists in the Division of Chemistry and Chemical Technology for the period ending 30 June 1964." (Service Information Officers, NMRI and NNMC)

Naval Medical Research Reports

U.S. Naval Medical Research Institute, NNMC, Bethesda, Md.

1. Distribution of Electrolytes in Human Blood. MR 005.02-1001.05 Report No. 2, 9 December 1960.
2. Urease Poisoning in the Dog. MR 005.12-1100.01 Report No. 4, 1 February 1961.
3. A Study of Two Proteolytic Enzymes from Mosquito Tissue. MR 005.09-1401.01 Report No. 6, 7 February 1961.
4. Preparation of Biological Museum Specimens by Freeze-Drying. MR 005.02-0001.07 Report No. 5, 1 March 1961.
5. Preparation of Biological Museum Specimens by Freeze-Drying: II. Instrumentation. MR 005.02-0001.07 Report No. 6, 2 April 1961.
6. Small Arterial Anastomoses: I. Nonsuture; II. Suture Report No. 4 MR 005.12-0001.01, April 1961.
7. Properties of Polyadenylic Acid in Methanol Solution. MR 005.06-0001.01 Report No. 15, April 1961.
8. Mechanism of Muscular Contraction. MR 005.08-0020.01 Report No. 4, May 1961.
9. Thermostatic Control of Human Metabolic Heat Production. MR 005.03-0050.02 Report No. 2, May 1961.
10. Metabolism in Calcified Tissues: Pyridine Nucleotidases of the Rabbit Femur. MR 005.-2-5000.02, Report No. 5, May 1961.
11. Luxol Fast Blue Staining of Degenerating Myelinated Fibers. MR 005.04-0001.03 Report No. 4, June 1961.
12. Venous Pressure in the Rabbit Foot before and after Freezing Injury. Report No. 3 MR 005.01-0021.01, June 1961.
13. Binding of Phenol Red by Serum and by Bovine Serum Albumin. MR 005.06-0040.02, Report No. 2, July 1961.
14. A Second Immunologic Type of Simian Foamy Virus: Monkey Throat Infections and Unmasking by Both Types. MR 005.09-1201.13.1, July 1961.
15. Study of the Value of Free Autogenous Splenic Grafts for Stimulating Communications Between the Mammary Vessels and the Coronary Circulation. MR 005.12-0001.01, 28 August 1961.
16. Vascular Replacement in Grossly Contaminated Wounds. An Experimental Study Comparing Formalin Preserved Homografts and Plastic Prosthesis. MR 005.02-0008.01 Report No. 1, 12 September 1961.

U.S. Naval Medical Research Unit No. 3, Cairo, Egypt

1. Immediate and Long-Term Results of Treatment of Acute Brucellosis Melitensis with Erythromycin-Streptomycin, Tetracycline-Streptomycin and Tetracycline Alone. MR 005.12-1001.15-01, January 1961.

U.S. Naval Medical Field Research Laboratory, Camp Lejeune, N.C.

1. Effect of Pentobarbital Anesthesia on the Hemodynamic Response to Thermal Burn. MR 005.12-0101.2.1, September 1961.

2. Action of Anti-Personnel Mines Across a 4-inch Air Gap. MR 005.10-0300.1.10, September 1961.
3. Myocardial Function Following Thermal Burn. MR 005.12-0101.2.2, September 1961.
4. Recovery of Parainfluenza Viruses from Adults with Upper Respiratory Illness. MR 005.09-1204.4.4, October 1961.
5. Evaluation of Diver's Dress Suits in Maintaining Body Temperature in Cold Water. MR 005.12-6100.1, October 1961.
6. Comparison of the Cholinesterase Levels Between Duodenal and Ileal Tissues of the Rabbit. MR 005.06-0020.1.5, December 1961.

U.S. Naval Medical Research Unit No. 4, Great Lakes, Ill.

1. Parotid Secretion Flow Rate Under Different Stimuli. MR 005.12-5102, June 1961.

U.S. Naval Air Development Center, Aviation Medical Acceleration Laboratory, Johnsville, Pa.

1. Control Performance Under Acceleration with Side-Arm Attitude Controllers. MR 005.13-0005.6 Report No. 11, 27 November 1961.

U.S. Naval Medical Research Laboratory, New London, Conn.

1. The Interruption of Dark Adaptation MR 005.14-1001-1.21 Report No. 347, 1 February 1961.
2. The Self-Reported Motivational Questionnaire (SMQ): A Preliminary Validation Study with a Population of Enlisted Submariner Volunteers. MR 005.14-2100-2.04, Report No. 348, 2 February 1961.
3. Methods of Computing Sample Statistics by Means of the Type 026 Cardpunch and Type 082 Card Sorter. MR 005.14-2100-1.09 Report No. 349, 3 February 1961.
4. Prediction of Adjustment to the Antarctic. MR 005.14-2100-3.05, 13 April 1961.
5. The Stability of a Standard of Loudness as Measured by Compensatory Tracking. MR 005.14-1001-2.06 Report No. 351, 17 April 1961.
6. Accommodation and Scotopic Visual Acuity. MR 005.14-1001-1.22, Report No. 352, 20 April 1961.
7. Scaling of Pitch Intervals. MR 005.14-1001-2.07 Report No. 353, 27 April 1961.
8. Compensatory Pursuit Tracking of Loudness. MR 005.14-1001-2.08, Report No. 354, 27 April 1961.
9. Orientation to the Vertical During Water Immersion. MR 005.14-3100-1.03 Report No. 355, 10 May 1961.
10. Concept of Triple Tolerance Limits Based on Chronic Carbon Dioxide Toxicity Studies. MR 005.14-3002-1.04 Report No. 357, 16 May 1961.
11. Memorandum Report No. 61-6 Cold Weather Facial Protection Device for Antarctic Personnel. MR 005.12-5220-2, 14 July 1961.

(To be continued in an early issue)

DENTAL SECTION

It's Your Life

Gustav W. Rapp, PhD., Illinois Dental Journal, August 1961.

The human body may be thought of as a highly complex machine, designed to convert energy into useful physical and mental work. In such a capacity its efficiency, that is, its ability to get work done for the energy expended is only about twenty-five percent. This figure resembles the efficiency of a modestly good mechanical machine. In contrast to a modern mechanical marvel, the human body breaks down when not in use.

It seems incredible that a man who spends time and money to keep his automobile in good operating condition by periodic oil changes, grease jobs, waxings, and tune-ups should not give his own body a similar courtesy. This becomes especially remarkable in the light of the fact that he can purchase a new automobile whenever he chooses—and has the means to do so—but he is literally "stuck" with the body he has for the rest of his life.

The modern, well-trained, aggressive professional man staves off mental and professional aging and deterioration by continued reading, attending refresher courses and clinics, and exercising his mind in other ways. He does little or nothing, however, to hold back the ravages of physical ailments—chronic fatigue, digestive upsets, headaches, shortness of breath, overweight, some form of circulatory or heart ailment, and the middle aged sag.

A survey of the death rates among 1000 professional men (dentists, physicians, veterinarians) revealed the following interesting statistics: Of all deaths, 11.9% were 23-34 years of age; 35.9% were 35-54; and 51.8% were 55-74.

The following are some findings of the Life Extension Examiners: Of these deaths, abnormal weight accounted for 30.4%; abnormal E.K.G., 21.4%; high blood pressure, 15.4%; defective vision, 14.2%; organic heart disease, 5.6%.

Even a cursory observation clearly shows that the average professional man is physically unfit. He finds climbing stairs, brisk walks, a frantic dash for the morning train, a round of golf without a caddy or motorized cart almost an impossible demand on his physical stamina. The avowed reasons for such unfitness are legion. But for a few exceptions they are sheer fabrications and self-deception.

Dr. Thomas Cureton of the Physical Fitness Laboratory at the University of Illinois proclaims the following to be a decalogue of the real causes of

unfitness: (1) gluttony and poor nutrition, (2) sedentary living, (3) lack of recreation or social enjoyment, (4) loss of interest in living, (5) imbalance of physical life, love life, work and play, (6) overindulgence in tobacco, (7) drunkenness, (8) mental anxiety, fear, and stress, (9) lack of any positive plan of physical conditioning, (10) lack of medical or dental treatment when needed.

It seems illogical, although it is true, that many a modern professional man is concerned with the dental health of humanity, but neglects a most important area: his own health!

By persisting in his ways, the dentist may realize that he is, just as so many of mankind, a victim of overweight, abuse to his heart and circulatory mechanisms, and neglect of his muscular balance and co-ordination which affects his posture, lower back, and feet. He treats his eyes with only enough care to carry on, and he considers the mouth and the nasopharynx an area which causes difficulty only to other people. He is not concerned with his hearing, despite the ever-increasing dangers brought on by modern noise generators, including his own high-speed dental engines. He realizes patients are sometimes difficult and unreasonable, but he may overlook the fact that he also is subject to emotional health problems. There is often a vital link in the inter-personal relations between his patients and himself which may spell success or failure of a mechanical appliance in the patient. He realizes the skin—especially of his hands—needs to be kept clean, but he forgets simple precautions which would safeguard his skin against hypersensitivities, allergies, and other common but disabling dermatoses.

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Survey of Retained Roots and Teeth Based on 3,874 Full-Mouth Roentgenograms

Stephen F. Dachi, College of Dentistry, University of Kentucky Medical Center, Lexington, Kentucky. Dental Abstracts, December 1961.

A study of 3,874 routine full-mouth roentgenograms of patients ranging in age from 11 to 61 years and over, yielded the following findings concerning retained roots and teeth:

1. The incidence of retained roots was close to 20% . Twice as many roots were retained in the maxilla as in the mandible. Over 6 times as many roots were retained in posterior regions than in anterior regions.

2. The incidence of retained roots in edentulous jaws was close to 24%. The incidence of retained and embedded teeth in edentulous jaws was 2.6%.

3. The over-all incidence of radiolucencies associated with retained roots was over 50%. Of these retained roots, those exposed to the oral cavity were involved with radiolucent areas in 81% of instances, whereas roots lying beneath the surface or completely encased in bone had radiolucent areas

around them in only 20.5% of instances.

4. The size of the retained root had no influence on the incidence of associated radiolucent areas.

5. There was no difference in the number of radiolucencies between roots retained in the maxilla and those in the mandible, but a noticeably higher incidence of involvement was noted in anterior regions as compared to posterior regions.

6. The incidence of retained roots of deciduous teeth was extremely small (1.2%).

7. Retention of deciduous teeth occurred in 1 of every 63 patients. The deciduous tooth most frequently retained was the maxillary cuspid.

These findings emphasize the need for comprehensive roentgenographic examination of all dental patients.

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Periodontal Surgery

John F. Prichard, Practical Dental Monographs, November 1961.

In health, gingiva and bone are consistent with one another in form. Periodontitis causes defects in the alveolar process that destroy the integrity of the periodontium and perpetuate periodontal disease unless corrected.

The diagnosis of periodontal disease is made by clinical examination and the use of a probe. The periodontal pocket is roentgenolucent, but evidence of crestal bone absorption caused by periodontal disease is recorded on the film. Since the roentgenogram shows a silhouette of bone and teeth, it records neither the morphology nor the lateral position of osseous defects.

Technics have been developed for relief of tension on marginal gingiva and for apical extension of the zone of attached gingiva.

Attempts to eliminate periodontal pockets and create physiologic gingival architecture by reshaping only the gingiva usually fail. By resculpturing the surface of the alveolar process to anatomic form, a foundation can be prepared for gingiva and the integrity of the periodontium can be established.

Many years of observation of the result of osseous contouring clearly reveal the predominant influence of correct osseous morphology on the integrity of the periodontium. Therefore, osseous surgical technics have become more complex while soft tissue management has become more elementary.

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Personnel and Professional Notes

Hypnosis in Dentistry. Hypnosis, that long disputed member of the health professions family has been extensively discussed in many dental journals. There is no question but that some people—including some dentists—have

become quite proficient in the art of hypnotism — particularly in the art of inducing analgesia and anesthesia.

The Dental Division supports the principle that hypnosis is a serious psychological phenomenon. There are many complex and unknown factors regarding the immediate and future effects of its use to the individual. It is a procedure that should not be used unless the operator has a well developed background in psychodynamics and medical psychology. Hypnosis cannot be learned satisfactorily by attending a few clinics or short post-graduate courses. It must be learned, as other specialties are learned, by adequate training conducted by qualified recognized teachers.

The Dental Division is not aware of any Dental officers in the U.S. Naval Dental Corps with sufficient specialized training to warrant the use of hypnosis as an adjunct to dental treatment. (Dental Division, BuMed.)

Reserve Retirement Points Approved for Chicago Meeting. The Chief of the Bureau of Naval Personnel has approved the awarding of one retirement point credit to Naval Reserve Medical Department Officers on inactive duty for attendance at the military program to be held in conjunction with the annual mid-winter meeting of the Chicago Dental Society. The Dental Society meeting will be held 18-21 February 1962 at the Conrad Hilton Hotel, and the military program will be presented at the Sheraton Blackstone Hotel, Chicago, 19 Feb '62. Capt R.H. Brening DC USNR, CO of NRDC 9-2 will act as moderator of the military program which will consist of the following:
Assistant Chief of the Bureau of Medicine and Surgery (Dentistry) and Chief, Dental Division, RAdm C. W. Schantz DC USN will present a lecture, Leadership in the U.S. Navy. Capt Harry J. Wunderlich DC USNR, Head, Dental Reserve Branch, will present Naval Reserve Dental Corps Programs Plans. The Director of Dental Activities, Ninth Naval District, Capt Frank M. Kyes DC USN will speak on Recruiting and Participation in the Naval Reserve.

Naval Dental Corps Continuous Education Program. A postgraduate course in Oral Roentgenology will be conducted 12-16 March 1962, at the U.S. Naval Dental School, NNMC, Bethesda, Md. This course will consider various types and models of x-ray equipment and techniques used in intraoral and extraoral roentgenology. Film emulsions and their processing will be discussed. Emphasis will be given to safety for both operator and patients. Adequate time will be devoted to reading and interpretation of films. The course will consist of lectures, demonstrations, and clinical and laboratory exercises.

Capt A. W. Grant DC USN, Head, Clinical Service Department, and Head, Oral Diagnosis and Roentgenology Divisions, will be the instructor. Quotas for the course have been assigned to the following naval districts and commands: ComOne, ComThree, SRNC, and CNATRA. Applications should be received in the Bureau as early as possible and preferably, not less than four weeks prior to commencement of the course. The Bureau Professional Advisory Board will make recommendations on all requests, and upon approval by the Surgeon General, applicants will be notified as to the final action. Those

approved will be nominated for TAD or authorization orders, as appropriate. Accounting data will be forwarded to individual officers nominated for TAD orders.

Staff Dental Officers not utilizing assigned quotas should report this information to BUMED, Code 6112, within one month of convening date of course. This will allow the Bureau to fill the quota from other districts.

Newly Standardized Items. The Armed Services Medical Materiel Coordination Committee has completed coordination with the Army, Navy, and Air Force of the desired characteristics of the below-listed items:

6520-817-2647 HOLDER, MATRIX WEDGE, Dental, Contra-angle
6520-823-7845 EVACUATOR, Oral Cavity, Dental
6525-817-2363 MOUNT, Radiographic Film, Dental, 16 film
6525-817-2364 MOUNT, Radiographic Film, Dental, 2 film
6525-817-2559 FILM, DENTAL RADIOGRAPHIC, High Speed, Bitewing
6515-817-2275 NEEDLE HYPODERMIC, Cartridge Type, Disposable, 25 gage, 13/16
6515-817-2276 NEEDLE HYPODERMIC, Cartridge Type, Disposable, 25 gage, 1 3/16
6515-817-2277 NEEDLE HYPODERMIC, Cartridge Type, Disposable, 27 gage, 1 3/16
6515-817-2278 NEEDLE HYPODERMIC, Cartridge Type, Disposable, 27 gage, 13/16

Additional information will be promulgated when these items are available in the depots of the medical supply system.

BUMED INST. 6322.8 Subj: Dependents' dental records; standardization of and procedure for handling. The purpose of this instruction is to establish standard procedures for recording dental examinations and dental treatment provided to dependents authorized by the Dependents' Medical Care Act and to provide instructions for the transfer and retirement of these records.

Reserve DO's Participate in Meeting. At a recent meeting of the Memphis Dental Society, Memphis, Tenn., the Naval Reserve Dental Officers named below participated in the program as follows: Capt Richard J. Reynolds DC USNR, member of Naval Reserve Dental Company 6-6, in Memphis, gave a table clinic entitled Porcelain Baked to Gold Restorations. Cdr H. Vernon Reed DC USNR, Commanding Officer, Naval Reserve Dental Company 6-12, in Memphis, presented a table clinic entitled Preparation of Mouth for Removable Partial Dentures. Cdr Robert L. Parrish DC USNR, Executive Officer of Naval Reserve Dental Company 6-12, is President-elect of the Memphis Dental Society.

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OCCUPATIONAL MEDICINE

Aging and Driving

Editorial, Aging and Driving. Post Grad Med 30:523-524, November 1961.

According to Burton W. Marsh, Director of the Engineering and Safety Department of the American Automobile Association in Washington, D. C., the Social Security Administration interviewed 130 recipients of social security benefits who were more than 100 years old. One of these, Judge Albert Alexander of Plattsburg, Missouri, reached 102 years of age in November 1960, and was still driving to work six days each week while serving his third straight elected term as magistrate and probate judge. In an interview the judge said that he enjoyed driving and had never had an accident.

The percentage of all licensed drivers more than 65 years of age increased from 5.9 in 1947 to 8.8 in 1960. The reasons for this increase are the growing number of persons beyond 65 years of age who desire to continue driving their cars, the increasing number of good roads, and the increasing dependability of motor cars, including the development of power steering and braking, which require only slight physical exertion. While more women than men in the group surveyed had reached advanced years, almost five times as many men as women continued to drive cars after reaching 70 years of age. After 60 years of age, three times as many men as women continued to drive.

Accidents per 100,000 miles driven increased sharply for both men and women after age 60. However, they never reached the number of accidents for drivers less than 21 years of age. Since, however, the number of older drivers is increasing rapidly, many more sound statistical studies need to be made on the relation of aging to motor accidents.

Adequate statistics now available show that older people are ill more frequently than are younger ones. Many have physical impairments. Conceivably, those aware of these conditions would not attempt to tax themselves beyond their capacity. A survey made among drivers showed that about two-thirds of older people who had illnesses said that these illnesses did not in any way interfere with normal living. "They were neither kept in the house, restricted from climbing stairs, confined to a wheel chair, nor kept in bed." Handicaps of hearing and vision are most numerous, yet they are correctible by eyeglasses and hearing aids. Many states license older drivers only with

the stipulation that they must wear their eyeglasses. Deficiencies in night vision would obviously be serious, and many older drivers of their own accord avoid driving at night. One of every eight persons between the ages of 65 and 74 and one of every four persons aged 75 or over have an impairment of hearing.

According to studies by R. W. Gerard, older people lose speed and flexibility and lack the kind of reserve and coordination that make for maximal performance. A lengthening of both simple and complex reaction time comes with increasing age. Ability to judge distance also diminishes slightly with advancing years. However, studies made by McFarland in the Harvard School of Public Health indicate that the elements involved in driving include steering coordination, braking reaction time, and glare resistance. Each of these shows a general decline with age. The most complex skill, namely, steering coordination, declines more slowly than either glare resistance or braking reaction time. Obviously, experience may compensate to some extent for the deficiency mentioned.

Drivers over 65 years of age were all born before motor vehicles had accumulated to their present numerical immensity. People who obtained a driving license in their teens and are now over 65 formed their driving habits in narrow, two lane rural roads. Modern conditions are entirely different. A survey made in California showed that improper turning was a frequent cause of traffic trouble among aging drivers. Perhaps this was due to inattentiveness or absent-mindedness, as is the disregarding by older drivers of traffic signals. A driving instructor in Washington, D. C., claimed that older drivers have traffic trouble because they are impatient and tend to be stubborn.

Many activities are now being undertaken in the United States with relation to driving by older people. Pennsylvania has a physical examination program which gives special consideration to the age of the applicant. Some states have courses in traffic safety for aging drivers. Such a course was planned by the Highway Traffic Safety Center of Michigan State University.

(NOTE: A different view on this subject in Med News Ltr, Vol 38 (3), Aug '61. — Editor)

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Hidden Injuries in Industry

John F. Coyne, 469 Sharpsville Ave., Sharon, Pa. J Occup Med 4(1):20-22, January 1962.

The primary concern of any physician treating injuries is the proper care of the patient, but an industrial physician has an additional responsibility. His first consideration is to evaluate the nature and extent of the injury and then to institute and manage therapy until maximum restoration of function is achieved. This consideration is purely medical in nature and proper disposition will depend on the injury itself and on the training and experience of the physician, but it is part of his responsibility that the best results be achieved

in the shortest possible time.

In the care of industrial injuries there is a second consideration. The physician must decide whether the patient is unable to work (temporary or permanent total disability), whether he could safely be returned to a modified or different job (temporary or permanent partial disability), or whether he could be allowed to continue at his regular work without limitation of his duties (temporary or permanent partial disability or no disability). This consideration is directly concerned with the nature of the patient's employment. Proper disposition here involves knowing exactly what the employee's duties are and whether modified work would be available, if indicated by the injury. It is at this point that the attending physician may find himself subjected to pressures, subtle or direct, to "get the man back into the plant" in the interest of preserving a plant safety record.

Injury Frequency and Severity Rates

Industry records its injuries on a standard established by the American Standards Association. Application of the standard is completely independent of compensation laws. Its stated purposes are to compare accident experiences among comparable industries, to point up the need for accident prevention in certain areas, to evaluate the effectiveness of existent safety programs, and to ascertain progress made within an industry in preventive programs.

Frequency and severity rates are based upon injuries that result in actual loss of time from work (charge is for the actual days that the employee was unable to work), and injuries that result in death, permanent total disability, or loss of parts or functions of parts. The charge bears no relation to actual loss of time from work, but is an assessment, such as 6000 days for an injury resulting in death or permanent total disability, 2400 days for amputation of a foot at the ankle, 1800 days for the loss of vision of one eye. The loss of time charged for this type of injury is inevitable and unquestioned, but injuries leading to "temporary total disability" involve the physician's decision in the amount of time lost by the employee.

Temporary total disability is defined as "any injury which does not result in death or permanent impairment, but which renders the injured person unable to perform a regularly established job which is open and available to him, during the entire time interval corresponding to the hours of his regular shift on any one or more days (including Sundays, days off, or plant shutdown) subsequent to the date of the injury." A regularly established job is "one which has not been established especially to accommodate an injured employee, either for therapeutic reasons or to avoid counting the case as a temporary total disability." Hedging is most frequent here, the mere presence of the employee being counted as attendance at work whether he actually engages in production or simply "puts in his time." This practice is contrary to the spirit and definition of the standard. Such practice, however, is inevitable when competition is encouraged among plants and among various departments of plants for a good safety record that is based, in part, on actual

time lost. Pressure is brought to bear upon the industrial physician to return injured workers to their jobs for the sake of the record, irrespective of what might be lost from a therapeutic standpoint.

Inequities in Frequency and Severity Rates

It is true that many injuries may be treated on an ambulatory basis, with the employee properly placed in the light of his temporary disability. It is to the workman's advantage to be kept actively employed if this can be done without detriment to his well-being. He will not suffer the usually considerable economic loss of the difference between his usual pay and compensation payments. His confidence and morale, often lowered by an injury, can be restored by useful employment. His convalescence and rehabilitation can be under the direction and observation of the plant medical department.

But some industries do not have the variety of jobs that will allow limited placement. The nature of the work itself may preclude the placement of the partially disabled worker. Halen illustrates this problem in a comparison of railroad and steel mill lost-time cases. Contractual agreements related to seniority rights may not allow proper placement. Company safety policies may prohibit the utilization of workers wearing casts or using crutches. All of these factors are incidental to the nature of the injury, and yet they can significantly affect frequency and severity rates.

Workmen in different plants but with identical injuries may be handled in widely different manners. For example, in one plant an employee with a fracture treated with a walking cast may be allowed to continue at the same or a modified job. He would lose no time from work, would suffer no loss in earnings, and there would be no statistical report of an injury. In another plant, the same employee might be prohibited from working. Here he would be off 5-8 weeks, would lose the difference between his usual wage and compensation payments, and there would be a reported injury that would affect this plant's frequency and severity rates unfavorably. The second plant might have a more enlightened approach to safety, treatment, and rehabilitation, but this would not be indicated by comparison of the safety indices of the two plants.

Proposed Solution

Mandatory assessment of a limited number of days according to the injury recorded, whether or not there is any actual loss of time from work, would provide a solution to some of the inequities outlined. This would afford a more equitable basis for comparative statistics and should uncover many unreported injuries. It should also alleviate some of the pressure applied to the treating physician. The proposed charges, shown below, correspond roughly to estimated healing times on the basis of a 5-day work week. The injuries included are of the type that can be objectively related to the work environment. Penalties for neglect in supplying or failure to use protective

gear are provided in the hope that more of the enthusiasm for safety records may be channeled into preventive safety and hygiene practices.

Injury	Days charged
Embedded corneal foreign bodies	5
safety glasses not worn	15
Lacerations of cornea or conjunctiva	15
safety glasses not worn	30
Welding "flash" injuries	2
proper equipment not provided	10
Ear injuries involving the tympanic membranes (such as burns, perforations, blast injuries)	10
protective ear wear not provided	20
Head injuries (concussion, including any loss of consciousness)	5
Lacerations	
any penetrating types	5
complicated by nerve, artery, or tendon injury	20
complicated by infection	20
Burns	
from acid or caustic solution	10
from flammable solvents	20
protective gear not worn	30
Dermatitis	
verified cases	10
protective clothing, gloves not furnished	20
Intoxications (from exposure to toxic gases such as carbon monoxide, cyanide; toxic metals such as lead; solvents such as carbon tetrachloride)	30
Fractures	
closed	30
open	60

Summary

Low frequency and severity rates have become the goal of industrial managements and these rates may reflect a more a more aggressive attitude concerning

lost-time cases than they do a safer work environment. The time to prevent lost-time cases is before injury occurs rather than by after-the-fact inveigling of the attending physician. Concern has become centered about a numerical statistical index rather than about the welfare of the injured employee. To correct inequities in the present standard and to encourage the reporting of hidden injuries, a system of mandatory assessments of time lost has been proposed for industrial injuries.

* * * * * *

Teamwork in Providing Medical Services for Industrial Disaster

Allan J. Fleming, Medical Director, E.I. duPont de Nemours and Company, Wilmington, Delaware. Arch Environ Health 3(5), November 1961.

All workers in industry are members of the industrial disaster team, engaged in lifesaving. This may be quite startling to most workers, who see themselves not as lifesavers but as interested only in plant security, public relations, legal affairs, or their particular job whatever it may be, and consider lifesaving primarily a medical problem. In a disaster, employees in all of these tasks, plus many more, have to work as a team if there is to be any lifesaving at all.

Teamwork can be achieved only through effective advance planning and training. Those responsible for casualty care in an emergency must be able to concentrate on the solution of major problems and not be forced to spend most of their time attempting to straighten out the chaos brought about by a lack of prior planning.

There is nothing quite so frustrating to a physician in a disaster situation as to be defeated in his medical ministrations by a lack of teamwork. When the traffic piles up and stops or delays the ambulances; when the physician has to spend half of his time on the telephone with interested reporters or anxious families; when the communications with hospitals break down completely; when crowds of well-intentioned persons press in upon the emergency first-aid operations—lifesaving slows down to a snail's pace.

The word "lifesaving" is used only as it applies to a mass disaster, since, fortunately, in most industrial disasters the problem is usually one of caring for the ambulatory injured, who are not in danger of death. Nevertheless, these people do need help, and they often need it in a hurry. In an industrial disaster, prompt and efficient first-aid and medical care for injured employees is more important than any other activity, except stopping the spread of the disaster, which would cause more casualties. And everyone who contributes in any way to disaster planning helps to lessen and solve the problems of casualty care.

Most medical services for disaster can be improved and fitted into an over-all company disaster plan. The only way to avoid complete chaos is

through careful planning. This requires a well-organized plan, prepared and tested far in advance of a disaster. Except sometimes in the case of storms or floods, one rarely has any appreciable advance warning of a coming disaster, and even when one has a warning it is often too late to set up a plan.

No one can set down specific rules for the management of plant security, communications or fire-fighting in a disaster. No physician can tell how to operate medical services in a specific disaster situation. Fortunately, however, valuable suggestions for doing these things are available.

There is, for instance, a booklet entitled "Guide to Developing an Industrial Disaster Medical Service," available from the Council on Occupational Health of the American Medical Association. This booklet is not a disaster plan, but, as its title indicates, a guide to developing a plan. It is an excellent guide, prepared by a committee well versed in industrial medicine. It recognizes that medical services for disaster depend upon the help and cooperation of all industrial workers. It is excellent also because it makes no attempt to set down a rigid plan which might not apply in a specific plant, but presents guidelines for tailoring a plan to individual needs. It consists largely of a questionnaire by means of which a company's medical preparations can be evaluated. It will help a company prepare a plan when no plan exists. It will help companies improve plans already established.

Ideal medical services in a disaster depend not so much upon the physicians and nurses as upon transportation, communication, shelter, and similar services. Certainly there must be sorting of the various classes of casualties; emergency first aid must be provided, and, in huge disasters, even prolonged medical care. Usually, however, it is the large number of somewhat shocked and bruised, but still ambulatory, victims that pose the real problem. And it is specifically in dealing with this group that most disaster plans prove inadequate. Victims are allowed to mill about. Some leave the company premises and go to their homes. Some take up valuable ambulance space that should be saved for the more seriously injured. Some tell conflicting and often weird stories to the press. Through lack of proper control, some of these become serious casualties because their minor injuries were not cared for properly.

Teamwork and cooperation are also needed in the matter of supplies and equipment. The pharmaceutical industry deserves credit for the vital role it plays in emergency and disaster, in rushing drugs, serum, blood plasma, or other needed supplies to the disaster area.

The distribution of company supplies in a disaster situation requires the utmost in teamwork. Naturally, the man in charge of supplies needs a duly signed and authorized requisition, but the written disaster plan should state definitely which persons are authorized to "break the rules" when speed is needed. Time cannot be spared for obtaining 3 or 4 signatures on a requisition in order to release a stretcher or blanket when it is needed. In one explosives plant during the war such strict security clearance was needed for admission that local firemen, denied admission, stood by in frustration watching a building practically burn down. Yes, teamwork is needed, and written plans will help to assure it. A situation such as this can be eliminated or made less serious

through cooperation. When disaster strikes, the entire working force joins the medical team in the saving of lives.

However, even with the teamwork approach, success cannot be achieved in a major disaster unless every employee knows something about self-help or self-protection. This must be taught through organization and training, so that it will work in plants, in buildings, and in departments. Some employers feel that the best thing the individual employee can do in case of disaster is to "get out of the way" of those who are properly trained in first-aid procedures. In many situations this is undoubtedly true, and employees should be instructed accordingly. If, however, the individual employee is to be used, he must be trained to carry out effectively the particular task expected of him. Most plants have a plan, however inadequate, for disaster control, including casualty care, and the problem is one of making their plan adequate and workable.

Most large plants have medical departments adequate for normal operations, but not for a major disaster. While it is hoped that normal community facilities, such as ambulance services, can be quickly available, first-aid teams, stretcher bearers, and the like must be available on the spot. And they must be trained far in advance. Clerical help in the medical department is very often inadequate in a disaster. In life-and-death situations, most people have little patience with recording information, but such information may prove life-saving. Clerical persons trained for disaster situations are, therefore, invaluable.

Here are some of the instances which show how the individual nonmedical employee can help the medical department carry out its duties in an industrial disaster.

1. Management must assign to nonmedical personnel some responsibility for making decisions in case of disaster. These assignments should be in writing and should be widely publicized. There must be a principal and 3 or 4 alternates for each decision-making position. It is amazing how many employees on any day are absent because of vacations, illnesses, weekends, and business trips.

2. Since the help of many persons is needed in a disaster, all employees should cooperate if asked to take training in first-aid or other disaster service. These trained employees should be formed into teams and assigned specific responsibilities in the disaster plan. These can supplement the regular stretcher crews that are used for normal day-to-day emergencies. Employees should recognize their responsibilities in taking such training and in encouraging fellow employees to do likewise. Motivation of large numbers of employees is not an easy task. It requires continuing effort, which the medical department is not set up to sustain. These trainees will range from regular first-aid teams to message bearers. The latter are very important, particularly when normal communications are disrupted or overburdened. Doctors and nurses will be too busy to run errands.

3. To be maximally effective in a disaster the medical department must find out many nonmedical facts about the company, e.g., the number of workers employed on different shifts, the specific hazardous areas, and the

location and operation of the sewerage and water systems.

4. The medical plan must be coordinated with the company's over-all disaster plan, and the latter with mutual aid plans which permit the use of the resources of other companies and of the community.

5. Cooperation of many different departments of the company is needed in dealing with the press, relatives, and the clergy.

6. Finally, the cooperation of all employees is needed in "dry runs" of the medical disaster plan.

Most of these suggestions are outlined in the aforementioned American Medical Association "Guide to Developing an Industrial Disaster Medical Service." The summary of that guide contains the following additional advice, which applies to all disaster plans, not just those for developing the medical services.

1. The entire plan must be in writing—the less left to chance or memory, the better.

2. Everyone in the medical department, key management persons, plus all other personnel directly concerned, must have written copies of the plan, and "dry runs" (of those parts of the plan in which particular individuals are concerned) must be made with those individuals as often as necessary to insure familiarity and interest.

3. The plan must be kept current and reviewed and tested in its entirety by those directly concerned at least every 6 months.

4. Alternates must be provided for all tasks, and their locations and telephone numbers must be kept on record.

5. Provision must be made for an adequate emergency tagging system, and for later transferring the information to more permanent records.

6. An adequate communications system must be established, including direct telephone lines, loud speakers, and even shortwave radio and "walkie talkies." These are possible and practical.

7. Problems of providing transportation, controlling traffic, providing the press with information, notifying families and ministers, priests, and rabbis must not be left to chance. Casualty evacuation routes must be worked out with the proper company officials. These may not be strictly medical problems, but unless the responsibility for these things is firmly established they may cause the medical services to collapse.

8. Arrangements should be made for cooperation with appropriate community disaster teams and services (police, fire, hospital, Civil Defense, governmental, Red Cross, and the Military).

In conclusion, the successful handling of a disaster situation requires teamwork, lots of teamwork.

* * * * * *

Prejudice is a great time saver. It enables you to form opinions without bothering to get the facts.

— Anonymous

Fuel Tank Cleaning Safety

An inspection was made aboard a ship prior to the start of a fuel tank cleaning job. Recommendations were made for the use of full protective clothing and air supplied respirators to prevent the inhalation of toxic vapors and to guard against the possibility of oxygen deficiency. Samples of sludge were to be analyzed for lead content since it was not known what specific fuel these tanks had contained in the past. All the precautions were taken that would have prevailed if it had been known that these tanks had in fact contained tetraethyl lead. The operations were concluded without incident. (Medical Department, Pearl Harbor Naval Shipyard).

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Ammonia Fumes from Sanitizing Mixture

Twenty people were overcome from a gas or gases released from a cleaning mixture which was being used in the Commissary Store. Investigation revealed that a mixture of cleaning agents was employed for sanitizing the store. The mixture included the following: "Mr. Clean", "Texize", "Clorox", and ammonia water. A test solution of the above was made and it was learned that ammonia fumes were released in heavy concentrations. A strong odor of pine oil was also apparent. No evidence of free chlorine was found. A report of this incident recommended that combinations of cleaning materials should not be employed for routine sanitizing. Pertinent facts on the toxic nature of ammonia were also included in the report. (Medical Department, Charleston Naval Shipyard).

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Lead Fumes in Scrapping of Ships

Several cases of lead poisoning have reportedly occurred in private shipyards engaged in the scrapping of naval vessels. Because of this, an investigation was made to determine the extent of potential lead hazard in dismantling DD superstructures discarded in the FRAM program. The superstructures are cut up with oxyacetylene torches by men working outdoors. Scrapings of paint indicated a 3.1% lead content. Three air samples taken in the breathing zone of the burners gave concentrations of .94, .51, and .09 milligrams lead per cubic meter of air. The last sample was taken in the breathing zone of a worker cutting through a bulkhead in the open air. Fumes that formed were quickly dissipated. It was recommended that air-supplied respirators be used for inside work and chemical cartridge fume respirators for working outdoors. (Medical Department, Puget Sound Naval Shipyard).

* * * * * *

Safe Handling of Hydrogen Peroxide

A new procedure using Hydrogen Peroxide 35% and diluting it to 10% to clean boiler tubes was instituted in the Shipyard. The problem with this material starts with the handling of the 55 gallon drums. Initial unloading of this chemical caused 2 employees to get burned from contamination on the exterior of the shipping container. Precautions required the use of gloves, boots, aprons, and face shield. The Boiler Shop personnel who used the hydrogen peroxide in the diluted condition profited by the experience of the Supply Department and consequently were outfitted properly before starting to use this material. (Medical Department, Norfolk Naval Shipyard).

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RESERVE SECTION

Promotion Points for Residency Training

Medical officers, completing a course of residency training approved by the Chief of the Bureau of Medicine and Surgery may, upon application, be credited with one promotion point for each semester hour or equivalent thereof satisfactorily completed. Residency training contemplates training which is normally of semester length and which leads to eligibility for examination for certification by an American specialty board.

Facts

To be creditable, training must have been received in your present grade (rank) computed from your date of rank.

Residency training received before 1 July 1950 is not creditable.

Residency training received in other than your present grade (rank) is not creditable.

Residency training not satisfactorily completed is not creditable.

Residency training received while on active duty is not creditable.

Promotion point credit preferably should be requested after satisfactory completion of each yearly increment of your particular program.

A maximum of 12 promotion points per fiscal year (1 July through 30 June) may be credited for residency training.

How to Request Promotion Point Credit for Residency Training

First, obtain a certification of satisfactorily completed residency training from the institution at which the training was received. A simple certification

that you, _____, M.D., satisfactorily completed residency training in (specialty) during the period _____ through _____, will be sufficient.

This certification must contain the inclusive dates of the training.

Second, prepare a letter in the following format, attach the certification, and mail to Chief, Bureau of Medicine and Surgery (Code 36), Department of the Navy, Washington 25, D.C.:

File No. 123456/2105
Date: 15 Jan 1962

From: Lt John P. Jones, MC, USNR
Address: 433 W. 6th Street
Norman, Maine

To: Officer in Charge, U.S. Naval Reserve Officer Recording Activity, Omaha 11, Nebraska
Via: Chief, Bureau of Medicine and Surgery, Department of the Navy, Washington, D.C.

Subj: Promotion point credit for residency training

Ref: (a) BuPers Instruction 1416.4C

Encl: (1) Certification of residency training

1. It is requested that the following periods of residency training completed in the specialty of _____ be evaluated for promotion point credit in accordance with the provisions contained in reference (a).

1 July 19__	to	30 June 19__
1 July 19__	to	30 June 19__
1 July 19__	to	30 June 19__
1 July 19__	to	30 June 19__

_____
Signature

When the Bureau of Medicine and Surgery receives your request, the training will be evaluated. If the training is approved, the Bureau will endorse your request and forward it to the Reserve Officers Recording Activity, Omaha, Nebraska, where the promotion points authorized by the Bureau's endorsement will be entered into your official performance record. You and

the commandant of the naval district in which you reside will receive a copy of the endorsement.

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Johnson Board Meeting, Evaluating Naval Reserve

A comprehensive study of the Naval Reserve is being conducted by the Naval Reserve Evaluation Board, headed by Vice Admiral Felix Johnson, USN, (Ret.).

The board will evaluate and make recommendations concerning the organization, administration and training concepts of the Naval Reserve and the promotion system for USNR officers.

In the course of its study, the Board is consulting Navy authorities concerned with the administration of the Reserve program and Reserve policies and making trips to various Reserve activities across the nation to gather first-hand information and testimony on the effectiveness of the Naval Reserve program. (From The Naval Reservist NAVPERS 15653, Dec 1961)

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Obligated Service, Categories, and Status of Members

Obligated Service

Pursuant to Section 4(d)(3) of the Universal Military Training and Service Act, as amended (50 U. S. C. App. 454(d)(3)), each male person who, subsequent to 19 June 1951, and prior to 10 August 1955, is initially enlisted, appointed, or inducted in the naval service, including the Naval Reserve, prior to attaining the 26th anniversary of his birth shall be required to serve in the Regular Navy or the Naval Reserve, or a combination of both, for a total period of 8 years, unless sooner discharged on the grounds of personal hardship or for any other reason the purpose of which is complete separation from any military status. Each such person who is initially enlisted, appointed, or inducted into the Regular Navy on release from active service shall, if physically and mentally qualified, be transferred to the Naval Reserve and shall serve therein for the remainder of the 8-year period of obligated service.

The Reserve Forces Act, enacted 9 August 1955, amended Section 4(d)(3) of the Universal Military Training and Service Act to provide that any male persons inducted, enlisted or appointed in the Armed Forces, including the reserve components, subsequent to 9 August 1955 while under the age of 26 acquire a 6-year service obligation in lieu of the 8-year obligation. Certain exceptions to the foregoing are provided in the Act, including those persons enlisted pursuant to Section 262 of the Armed Forces Reserve Act of 1952, as amended, which provides for an 8-year term of enlistment for male persons enlisting in the Ready Reserve while under 18 1/2 years of age with an initial tour of active duty for training of from 3 to 6 months.

Pursuant to the enlistment program authorized by Section 261 of the Armed Forces Reserve Act of 1952, as amended by the Reserve Forces Act of 1955, individuals who will acquire the 6-year obligation upon enlistment in the Naval Reserve are enlisted for a period of 6 years with a requirement of 2 years of active duty; satisfactory service as a member of the Ready Reserve for a period which, when added to the 2 years' active duty, will total 5 years; and the remaining period in the Standby Reserve.

(From BuPers Manual - Article H-1401)

Medical Support for Space Flight - Change in Convening Date

Subject course was announced in Medical News Letter, Vol. 38, No. 3 dated 4 August 1961. Course has been rescheduled and will be conducted 4-29 June 1962, by the School of Aerospace Medicine, Brooks Air Force Base, Texas. SECRET security clearance required. Requests for attendance must reach BUMED not later than 15 March 1962. (Professional Division, BuMed.)

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